

VBS[®]3

Release Notes



Version 3.7.2

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An online version of this reference, which is periodically updated, can be found at:

<http://manuals.bisimulations.com/>

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1. System Requirements

VBS3 is designed to run on the widest possible range of desktop and laptop computer systems, readily available from many distributors. Most desktop systems sold in the last three years run VBS3, provided a dedicated graphics card is included.

Requirement	Minimal	Recommended	Optimal
Description	A system that runs VBS with its lowest graphical settings and a low frame rate. Suitable for single player, using default scenario content.	A system that runs VBS with median graphical settings. Suitable for multi-player training, using typical scenarios.	A system that runs VBS with its highest graphical settings. Suitable for multi-player training, using resource intensive scenarios.
CPU	Intel Core 2.8 GHz AMD Athlon 64 X2 4400+	Intel Core i5-2300 AMD Phenom II 940	Intel Core i7-4770 AMD FX-9590
RAM	4 GB	8 GB	16 GB
Video	Nvidia GeForce GTX 260 AMD Radeon HD 4870 512 MB VRAM DirectX 9.0c	Nvidia GeForce GTX 560 AMD Radeon HD 7750 1024 MB VRAM DirectX 11	Nvidia GeForce GTX 970 AMD Radeon HD 7950 4096 MB VRAM DirectX 11
Free Disk Space	VBS3: 40 GB Tools: 15 GB Custom content not recommended	VBS3: 40 GB Tools: 15 GB Additional space for typical custom content: 100 GB SSD recommended	VBS3: 40 GB Tools: 15 GB Additional space for large-scale custom content: 200 GB SSD
Operating System	Windows Vista, 7, or 8.1 32- or 64-bit	Windows Vista, 7, or 8.1 64-bit	Windows 7, or 8.1 64-bit

Note: The hardware listed is not exclusive. Compare your hardware to the above items for an indication of performance. Operational usage can affect performance requirements. Increasing visual fidelity (detail, distance, and / or resolution), as well as scenario complexity, can have a significant impact on performance, and may warrant increasing the systems specification to the next performance tier. For hardware queries, contact us directly at <https://www.bisimulations.com/contact-us>.

For specialist simulation setups, VBS3 may require a custom implementation to achieve the desired field of view and frame rate. For information about these considerations, see Implementation Guides in the VBS3 Administrator Manual.

2. VBS3 Components and Compatibility

VBS3 consists of a set of core components, a separate distribution of content tools for VBS3, and is compatible with a range of in-house and 3rd-party plug-ins and tools.

Core Components	Description
VBS3 Engine	Core simulation engine for VBS3
VBSFusion Runtime	Runtime to support API calls from VBSFusion
"VBS Gateway" (page 5)	Default HLA / DIS gateway for interoperable simulation.
"VBS Radio" (page 8)	Default radio and local communication simulation.

The VBS3 Developer Suite and a set of 3rd-party tools are available to create content for VBS3.

VBS3 Content Tools	Description
VBS3 Developer Suite	Set of terrain and model creation tools for VBS3
Silvador Pro	Realistic plant and biotope creation
VBSFusion	API plug-in to directly access the VBS3 engine
TerraTools 5	Environment simulation toolkit
DemTools 2	Digital Elevation Model manipulation
MaterialMAP	Surface material map creation
RoadMap	Road network extraction tool
Xtract	Geospatial data conversion tool

A set of 3rd-party plug-ins are available to extend the capabilities of VBS3.

3rd-Party Plug-In	Description
VBSFires	Call for fire simulation module
VBSFiresFST	Joint Terminal Attack Controller simulation module

For more information about the additional tools and capabilities available for VBS3, visit <http://marketplace.bisimulations.com>.

VBS3 also uses a set of 3rd-Party and open source components. For more information, see <https://bisimulations.com/eulas/vbs3-third-party-licensors>.

2.1. VBS Gateway

Enhancing VBS3 Interoperability

VBS Gateway is the premier gateway for VBS3. VBS Gateway provides a DIS / HLA link between VBS3 and other simulations for distributed training exercises.

VBS Gateway comes as standard with VBS3 and automatically connects to other VBS Gateway clients out of the box with no configuration changes.

VBS Gateway brings live loading, user-friendly configuration capabilities, a real-time user interface, and significant performance enhancements as the new VBS3 gateway system.

VBS Gateway offers:

- Live entity editing
- Higher frame rates for better visualization
- User-friendly mapping of shared entities
- Smoother transitions with dead reckoning
- Filter and search functions with human readable model names
- Actionable feedback for determining mapping errors.

VBS Gateway supports:

- DIS v4-v7
- HLA FOMs including RPR1 and RPR2
- HLA versions including 1.3, 1516, 1516-2000, 1516e
- RTIs including pRTI, MAK, Portico, and NG
- CIGI specification version 3.3

Review VBS Gateway features at <https://youtu.be/GpL80LNyF2s>

For detailed information, see VBS Gateway or the VBS Gateway.pdf in your installation /docs/PDF folder.



LVC Game from Calytrix is still available with VBS3 with an appropriate HASP activation key.

Enhancements in VBS Gateway 1.3:

- "VBS CIGI Host" (page 7) uses VBS Gateway to configure CIGI communication settings and to broadcast and receive CIGI messages.

Enhancements in VBS Gateway 1.2:

- The addition of a Log page in the user interface to view log messages.
- Separation of log files by VBS Gateway adapter.

For more information, see VBS Gateway Logging.

- New option to import .dbo files exported from other VBS Gateway instances.

For more information, see Export / Import Mapping Files.

2.2. VBS CIGI Host

VBS CIGI Host introduces a new capability for VBS3 to broadcast defined viewpoints to CIGI-compliant image generation products (IG). VBS CIGI Host uses VBS Gateway to manage VBS CIGI Host settings and to communicate with connected IG clients.

VBS CIGI Host uses VBS3 Editor Objects to define viewpoints in scenarios which you can link to an object such as a vehicle or character. Each Editor Object specifies a set of view perspectives for that viewpoint and which IG clients to broadcast to.

For more information, see:

- [VBS CIGI Host.pdf](#) in your <VBS Installation>/docs/PDF folder.

or:

1. Configure VBS Gateway in the VBS Gateway documentation.
2. Add IG Viewpoints to Scenarios in the VBS3 Editor Manual.
3. Create View Configuration Files in the VBS3 Editor Manual.



2.3. VBS Radio

VBS Radio provides radio and Direct Talk communications between users in VBS3 training exercises, and filterable voice communication playback for After Action Review.

Radio communications feature distance and weather-based signal degradation.

VBS Radio features six standard default channels and two context specific default channels. Mission designers and administrators can also create and modify channels, and save these channel settings as presets for use across different scenarios. Up to 99 custom channels can be added to a scenario.

- **Default Channels:**

- **Global:** Available to all users in the scenario.
- **BLUFOR:** Available to all users on the BLUFOR side.
- **OPFOR:** Available to all users on the OPFOR side.
- **INDFOR:** Available to all users on the Independent side.
- **Civilian:** Available to all users on the Civilian side.
- **Group** Available to all users in a specific group.

- **Context Specific Channels:**

- **Vehicle:** Users in a vehicle can communicate on the vehicle intercom.
- **Dead:** Dead users can communicate on this channel only.

- **Special Channel:**

- **Direct Talk:** Users in close proximity communicate verbally, with a distance-based drop-off in volume.

Radio channels can be turned on and off in After Action Review (AAR) in order to focus on specific communications within an exercise, or a single user or group can be selected to focus on more specific communications.

This documentation explains how to setup and use VBS Radio:

- Setup VBS Radio in the VBS3 Editor Manual.
- Using VBS Radio in the VBS3 User Manual.
- VBS Radio Playback in AAR in the VBS3 Administrator Manual.

Prerequisites:

- VBS Radio uses UDP and TCP on port 2305. If necessary, configure these ports and other network settings by editing the following files in `<VBS Installation>/Components/VBSRadio/`:
 - `Radio_Multicast_Settings.xml`
 - `Radio_Tcp_Settings.xml`
- VBS Radio uses the port specified but also attempts the next 9 going up from that port.
- The Port settings on all clients needs to match the servers.
- Ensure that your Windows audio settings are properly configured to use your preferred audio and microphone devices.

3. New Features and Enhancements

VBS3 Version 3.7.2 introduces a number of new features and enhancements since VBS3 3.6.

Changes in VBS3 Version 3.7.2:

- "VBS Radio" (page 8)
New component for radio and local communication between players.
- "VBS CIGI Host" (page 7)
Broadcast defined viewpoints to CIGI-compliant image generation products (IG).

Changes in VBS3 Version 3.7.0:

- New default HLA / DIS gateway for interoperable simulation.
See "VBS Gateway" (page 5).
- New capability to download, install, and load specific content packs for VBS3.
See "Content Packs" (page 10).
- New technology to provide more advanced simulation of sea states.
See "Advanced Sea States" (page 11).
- New capability to record player infantry movement to use as AI paths.
See "Unit Path Recording" (page 12).
- New capabilities to support the visualization of changing terrains and training for scenarios such as forest fires.
See "Dynamic Surface Modification" (page 13).
- "Additional Enhancements" (page 14)

3.1. Content Packs

From this release, VBS3 is split into a separate installer, a core customer-specific deployment, and individual content packs. This split decreases the size of the deployment, decreases load times, and enables you to focus on the specific content you use.

Download and install the content packs you want, with content split into categories; armed forces for individual countries, terrain packs, and static objects.

When you start VBS3, with the Launcher or with a command line option, you can also select which sets of content you want to load in addition to the core content of VBS3.

VBS3 provides the following content categories for selection in the Launcher:

Category	Description	Category	Description
af	Afghan Armed Forces	maps	Terrain Pack (Multi-Maps, Geotypical Maps)
au	Australian Armed Forces	nl	Dutch Armed Forces
ca	Canadian Armed Forces	nz	New Zealand Armed Forces
civ	Civilians	objects	Game Objects for Terrains
cz	Czech Armed Forces	opfor	Post-Soviet Armed Forces
de	German Armed Forces	se	Swedish Armed Forces
fr	French Armed Forces	simcentric	SimCentric Plugin Objects
game	ArmA Forces and Terrains (Sahrani, Rahmadi, etc.)	us	US Army
gb	UK Armed Forces	usaf	US Air Force
iq	Iraqi Armed Forces	usmc	US Marine Corps
kp	North Korean Armed Forces	ussf	US Special Forces
kr	South Korean Armed Forces	xx	Minor Armed Forces

Note: The available categories vary depending on your license options and the installed content.

To deploy and install the content you require, see Installing VBS3 in the VBS3 Administrator Manual.

To start VBS3 with selected content, see VBS Launcher and Command Line Options in the VBS3 Administrator Manual.

3.2. Advanced Sea States

VBS3 includes improved open water modeling that can use wind conditions to control the sea state and wave direction, and provides improved particle effects, floating object physics, wakes, and shore lines.

Start VBS3 with Advanced Sea States turned on, and use scenario settings to control the height of waves using the Beaufort Scale and the wave direction, or link the sea state to the wind conditions. You can also set the sea color.

Note: In this release, we recommend sea states 0-6, with improved effects for higher states expected in upcoming releases.



For more information, see Define Scenario Settings in the VBS3 Editor Manual and `setSeaState` in the [online scripting reference](#).

3.3. Unit Path Recording

VBS3 includes new functionality to control the movement of AI characters in scenarios based on recordings of player characters.

You can record your movement and actions in a terrain and store this as a Unit Path Recording.

The recordings are available for use with AI characters in scenarios that use the same terrain. Use of the recording can depend on scripted conditions or triggers and behavior can be set to abandon the recorded path if the AI character encounters enemy forces.

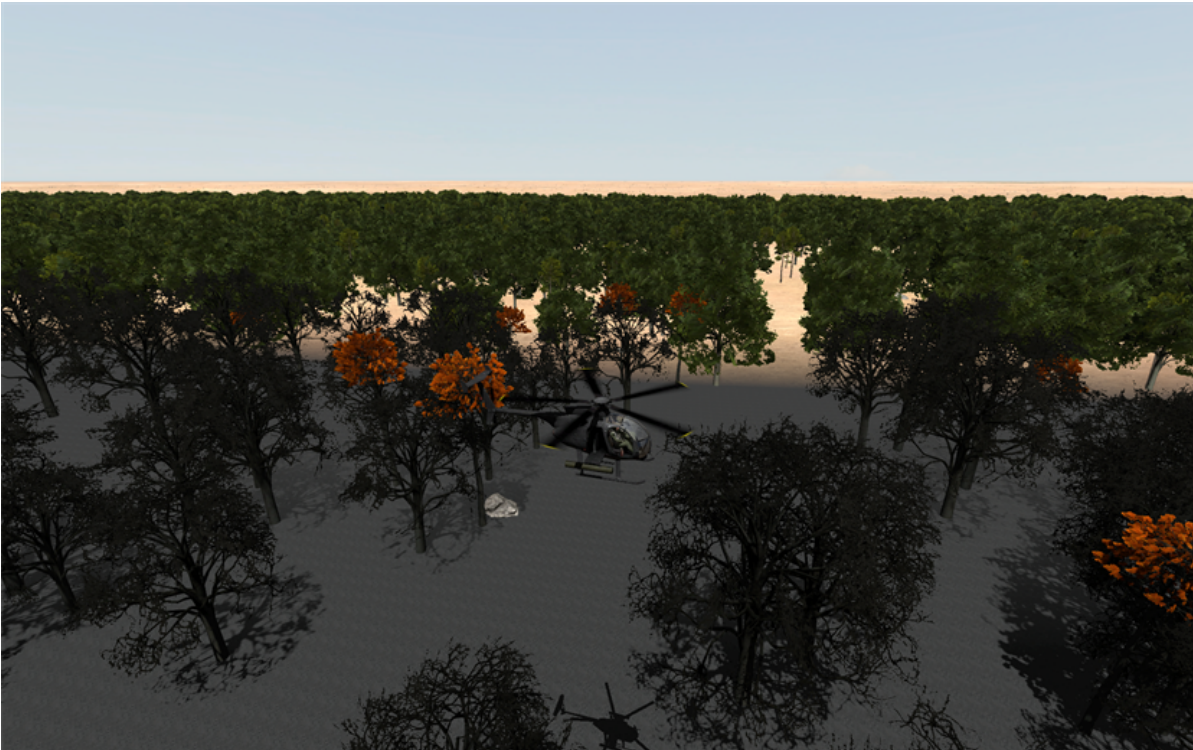


For more information, see Unit Path Recording in the VBS3 Editor Manual.

3.4. Dynamic Surface Modification

VBS3 includes a set of capabilities to support dynamic surface modification.

These capabilities, combined with additional specific components and models, enable the creation of plug-ins to provide visualizations of a changing terrain for specific training purposes.



VBS3 provides additional content to use with these capabilities to enable the creation of a Forest Fire Area Simulation (FFAS):

- Surface Modification ASI Functions

VBS3 includes a set of functions to replace models in a terrain and simulate the spread of an 'ash' layer.

Note: VBS3 must start with the `-enableAsh` command line switch to enable use of the ash layer.

- FFAS Tree Models

To simulate various degrees of fire damage in a typical Mediterranean environment, VBS3 includes variant models for the following trees:

- Quercus Ilex
- Pinus Halepensis

For more information, see Dynamic Surface Modification in the VBS3 Developer Reference.

3.5. Additional Enhancements

In addition to the new features, VBS3 Version 3.7.2 also includes the following enhancements since VBS3 3.6:

- Very High Shadow Setting
VBS3 adds a higher video setting for more detailed shadows.
For more information, see Video Options in the VBS3 Administration Manual.
- Oculus Rift Support
VBS3 supports the Oculus Rift DK1 and DK2 development kits for limited demonstration capabilities.
For more information, see Oculus Rift in the VBS3 Administration Manual.
- External Entity Display in VBS3
Entities managed by external simulation products display differently in the RTE.
For more information, see Differences Between the RTE and OME in the VBS3 Editor Manual.
- Weapon HUD Safety Colors
Red now indicates that the weapon is ready to fire.
For more information, Heads Up Display (HUD) in the VBS3 User Manual.
- Look At Player Option for Intelligence Reports
Option for the Intelligence Report editor object to interrupt AI animations during conversations.
For more information, see Intelligence Reports in the VBS3 Editor Manual.
- Addons encrypted for versions older than VBS3 3.4 can be converted and used in VBS3 3.4 and later.
For more information, see Addon Encryption Update Tool in the VBS3 Administrator Manual.
- New Simulation Settings
Manual Fire, Peripheral Vision, Advanced Mini-Map, Xaitment Pathplanning Inside Buildings, and HUD Show Group.
For more information, see Simulation Settings in the VBS3 Administrator Manual.
- New Keyboard Layouts
Role-specific schemes to provide more targeted control references for use with VBS3.
For more information, see Appendix 1 - VBS3 Controls in the VBS3 User Manual.
- DirectX Fonts
DirectX fonts are now enabled by default.
- PhysX modeling for all aircraft
All aircraft now use PhysX modeling to enable more realistic interaction for scenarios such as loading vehicles on aircraft and landing aircraft on ships.

4. Customer Support

VBS3 3.7.2 resolves a number of issues.

For more information, see the `ReadMe_VBS3_3_x.txt` file in the `<VBS Installation>\docs\Other\Changelogs` folder, and the [Support Knowledgebase](#).

Troubleshooting resources describe various known issues and any available workarounds for them:

- Installation Troubleshooting in the VBS3 Administration Manual
- Administration Troubleshooting in the VBS3 Administration Manual
- Scenario Design Troubleshooting in the VBS3 Editor Manual
- [Support Knowledgebase](#)

For additional customer support:

The VBS Support Resource webpage can be found at:

<http://www.bisimulations.com/support>

For any type of assistance with VBS products, use the following support email and we will respond to your query with urgency.

support@bisimulations.com

The VBS support forums are located at:

<https://forums.bisimulations.com/>

The VBS website contains a range of media and handouts relating to VBS products:

<http://www.bisimulations.com/>

The BISim Wiki is the primary resource on VBS3 scripting:

http://resources.bisimulations.com/wiki/Main_Page

PhysX

VBS3 uses the PhysX physics engine. For more information on PhysX visit the Nvidia site.

http://www.nvidia.com/object/nvidia_physx.html

